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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YU, MISOOK	

ART UNIT	PAPER NUMBER
1642	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,664	CHIANG ET AL.	
	Examiner	Art Unit	
	MISOOK YU	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/20/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-34 are pending and examined on merits.

Claim Objections

Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim does not further limit the cell of the base claims it depends, which violates 35 USC § 112, 4th paragraph.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3 and 11 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

Claims 1-3 and 11, as written, do not sufficiently distinguish cells they exist naturally because the claims do not particularly point out any non-naturally occurring differences between the claimed products and the naturally occurring products. In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter. *See Diamond v. Chakrabarty*, 447 U.S. 303, 206 USPQ 193 (1980). The claims should be amended to indicate the hand of the inventor, e.g., by insertion of "Isolated" or "Purified". See MPEP 2105.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9, 12, 18, 21, 22, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Gonzalez-Garcia et al., IDS filed on 06/20/05, #AC, Development, Vol. 120, pages 3033-42.

Claims 1-3, 9, 12, 18, 21, 22, 28, and 29 are drawn to a cell expressing an increased amount of Bcl-xL protein, wherein the cell does not express a heterologous cyclin-dependent kinase inhibitor (4 or 3 different specific cells as Markush groups in claims 2 and 21, and 3 and 22 respectively), Bcl-xL protein is expressed from an expression vector transfected into cell in claims 9 and 28, cells of base claim 1 further comprises a first expression vector expressing a polypeptide in claims 12 and 29, have method of producing a polypeptide using the cell of claim 1 in claim 18.

Gonzalez-Garcia et al., at the paragraph bridging page 3034 to 3035, teach "Murine FL5.12" transfected with murine Bcl-XL protein, and protein being expressed is detected using flow. Note "Stable transfection of the FLAG-bcl-XL gene into murine FL5.12 cells resulted in high expression of the Bcl-XL protein" at page 3035, right column, line 3 from bottom of page.

Claims 1-3, 9, 11, 12, 18, 21, 22, 28, 29, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Inohara et al., IDS filed on 06/20/05, #AE, J. Biol. Chem. 1998, Vol. 273, pages 8705-8710.

Claims 11 and 30 not listed above is drawn to human Bcl-XL.

Inohara et al., at page 8706 and Fig. 7 legend (page 8709) teach "293T and HeLA cells tranfected" with "pSFFV-HV-h-BCL-XL" and the protein being expressed is detected. Note Fig. 7B.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goswami et al, IDS AD, Bioechn. & Bioeng. 1999, vol. 62, pages 636-640 in view of Gonzalez-Garcia et al (cited above).

Claims 1, 4-7 and 10-12 are drawn CHO cells expressing Bcl-XL protein, but not a heterologous cyclin-dependent kinase inhibitor, wherein the cells are adapted for growth in suspension, or in a medium free of serum.

Goswami et al., teach "Bcl-2 expression was able to significantly extend viabilities in CHO batch culture in response to insulin and transferring withdrawal" (note abstract), and at page 633 right column, under heading "Cell Culture" also teach that the CHO cells were grown in suspension in serum-free medium.

Goswami et al., do not teach Bcl-XL. However, Gonzalez-Garcia et al., at the abstract teach "Just like Bcl-2, the murine bcl-xL gene product can act as a dominant inhibitor of cell death upon growth factor withdrawal".

Therefore it would have been obvious to one of ordinary skill in the art at the time the instant invention was filed to recognize Bcl-XL and Bcl-2 are art-equivalents in term of function to extend viability of cells grown in cell culture especially in response to growth factor withdrawal. Therefore it would have been obvious to one of ordinary skill in the art to arrive at the claimed invention with a reasonable expectation of success by substituting Bcl-XL taught by Goswami et al.

Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. 6586206 (filed 09/25/2000) in view of Goswami et al, and further in view Gonzalez-Garcia et al (cited above).

Claims 1-34 are drawn to a cell expressing Bcl-XL protein but not heterologous cyclin-dependent kinase inhibitor, where the preferred embodiment of the cell is CHO grown in serum free suspension with added butyrate in the culture medium, and the cells also express antibodies, and the claimed invention is also drawn to method of using the cell to express and isolate secreted antibody.

US 6586206 teaches method of prolonging CHO cells with added butyrate in the culture medium, and method of expressing recombinant protein including antibodies. Note claims 1-21, and Figs. 1-21, and also teach at paragraph 46 as follows:

> In one embodiment of the invention, the selected host cell is a CHO cell, preferably, a dp12.CHO cell, and the selected culture medium contains a basal medium

component such as a DMEM/HAM F-12 based formulation (for composition of DMEM and HAM F12 media and especially serum free media.

US 6586206 teach Bcl-2 is listed as ""apoptosis inhibitor" i.e. the same category as "caspase-9 dominant negative protein" at 3rd paragraph under the heading "Detailed Invention".

However, Goswami et al., teach "Bcl-2 expression was able to significantly extend viabilities in CHO batch culture in response to insulin and transferring withdrawal" (note abstract), and at page 633 right column, under heading "Cell Culture" also teach that the CHO cells were grown in suspension in serum-free medium.

Goswami et al., do not teach Bcl-XL. However, Gonzalez-Garcia et al., at the abstract teach "Just like Bcl-2, the murine bcl-xL gene product can act as a dominant inhibitor of cell death upon growth factor withdrawal".

Therefore it would have been obvious to one of ordinary skill in the art at the time the instant invention was filed to recognize Bcl-XL and Bcl-2 are art-equivalents in term of function to extend viability of cells grown in cell culture especially in response to growth factor withdrawal. Therefore it would have been obvious to one of ordinary skill in the art to arrive at the claimed invention with a reasonable expectation of success by substituting Bcl-XL taught by Goswami et al. One of ordinary skill would have been motivated to arrive at the claimed invention given Pat. 6586206 teach that antibodies are well expressed in CHO cells and CHO cells viabilities are increased. Increased viability of antibody expressing cells would save time and cost associated with maintaining CHO cells.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MISOOK YU whose telephone number is 571-272-0839. The examiner can normally be reached on 8 A.M. to 5:30 P.M., every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571-272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MISOOK YU
Primary Examiner
Art Unit 1642

/Misook Yu/